

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



Trade.  
U. S. DEPARTMENT OF AGRICULTURE,

Bureau of Entomology.

NEWS-LETTER

OF

THE

OFFICE OF CEREAL AND FORAGE INSECT  
INVESTIGATIONS.

---

Volume II,

No. 2,

February 1,

1914.



February 1, 1914.

An entirely new innovation, which will doubtless be followed in the near future by other lines, is just being undertaken by the Chicago Burlington and Quincy Railway by which "every inch of tillable ground along the 10,000 miles of track of the Burlington railway system is to be turned over to farmers and sowed in alfalfa and maintained as a perfect lawn. The company has several good reasons for the innovation.

"It is believed that by maintaining an evergreen right of way, as alfalfa never dries in the ground, much of the danger from right of way fires will be eliminated.

"Speaking of the plan John B. Lamson, agriculturist for the Burlington road, said:

"There are a number of reasons for planting our right of way with alfalfa. First, we hope in this way to extend the field of alfalfa, to interest more farmers in the cultivation of this wonderful hay. It will fill the right of way that is tillable, and where nothing but weeds now grow. This will of course be a financial benefit to the farmer. Alfalfa is ever green and will, we think, prevent many fires that occur by sparks falling along the right of way. During dry times ordinary vegetation, particularly weeds, along the right of way, become dry and easily catch fire from locomotive sparks. These sparks falling on green alfalfa will do no harm.

"Another reason, and one which may appeal more to the general public, is that the alfalfa will present a pretty appearance from the car windows, will keep down dust to some extent and will give the appearance of the train running through a high grass lawn. Alfalfa resembles a flower and the optical result may be more pleasing than we imagine.

"Of course, there are many places where the right of way is in cuts or on hillsides, where cultivation of the right of way is out of the question, but we estimate that roughly there will be between 25,000 and 30,000 acres of right of way that will be available to the farmers.

"The right of way land will be leased to owners of farms adjoining such right of way at \$5 for each farm. Already we have received a number of signed leases. This amount will be paid but once and will be for all time, the idea for a nominal charge being to establish a contractual relation between the railroad and the farmers."

In some recent correspondence with Mr. Lamson he expressed himself as very anxious to cooperate with us in keeping a surveillance over the railroads right of way with reference to the entomological significance of this new course that his road is taking up. In all probability the same course will be followed by other trunk lines, thus opening up a new feature of our work.

---

Among the recent visitors in the office were Dr. H. T. Fernald, Amherst, Mass.; Dr. W. E. Britton, New Haven, Conn.; Dr. E. P. Felt, Albany, N. Y.; Prof. P. G. Parrott, Geneva, N. Y.; Dr. C. Gordon Hewitt, Ottawa, Canada; and Mr. J. R. Parker, Bozeman, Mont.



Mr. Chas. F. Stiles, appointed on January 1, and assigned to duty at the Greenwood, Miss., station, resigned on January 5.

Mr. L. P. Rockwood who spent some time in the office in December has returned to Salt Lake City.

Mr. E. O. G. Kelly spent some time in the office, chiefly engaged in the preparation of manuscript.

Mr. Geo. W. Barber, a graduate of the Mass. Agr. College, Class 1913, was appointed January 1 and assigned to the College Park, Md., station for duty.

Dr. Aldrich is spending some time in the office, working on the collections of Sarcophagidae. If there is any undetermined material in the hands of any member of the force it should be sent in at once for determination.

#### A METHOD OF REARING THE LARVAE OF DIABROTICA.

The most successful method used at the Hagerstown station for rearing *Diabrotica 12-punctata* has been to confine adults singly in the small tin Coleoptera rearing boxes to obtain their eggs from which to raise larvae. The boxes were prepared for the purpose by filling them about three-quarters full of dental grade plaster of Paris and blackening the surface of the plaster and the sides of the box with diluted India ink. The boxes found most convenient to handle were the ones about 1 3/8" deep x 1 7/8" diameter. The plaster served at once to confine the beetles in a small space at the top of the box where they could be easily observed with the binocular if desirable and to furnish a surface which, while much more nearly approximating the natural soil surface in which they are supposed to lay their eggs than the tin, at the same time prevented them from burying their eggs so that their development could not be watched. Blackening the inside of the box made it much easier to see the pale yellowish green eggs and the little white larvae which hatched from them. Accurate note keeping was possible only by limiting the number of adults per box to one. The beetles were confined by means of small glass plates instead of the tin box covers, so that they could be observed without disturbing them, and they were kept supplied with a fresh leaf from one of their favorite food plants. The beetles laid their eggs in bunches of one to eight or more, usually on the surface of the plaster, sometimes on the sides of the box, on the food leaf, even on the glass cover, and occasionally placed them in the little bubble holes in the plaster.

When the eggs hatched the little larvae were placed singly on small sections of young, tender corn plant stems in still smaller plaster of Paris cells. These cells were made by filling the covers of the boxes used for the above cages and other small, shallow boxes with plaster of Paris, pressing glass plates against the surface, and allowing the plaster to harden with the plates in position. The plates were then removed and cells hollowed out in the plaster about one inch long, deep enough to contain a section of the young corn stem, and wide enough for two of these sections, so that fresh food could be kept in the cell without disturbing the larva, and at the same time not allowing so much material to accumulate that molted skins could not be easily found. The larvae also pupated in these cells. C. M. PACKARD.



Larvae of *Phorbia* (*Pegomya*) *fusciceps* have developed a fondness for young wheat. Professor Newell sent us adults reared from larvae attacking wheat in Texas; Doctor Morrill sent the same reared from larvae attacking wheat in Arizona while the flies were abundant in wheat fields of northern Oklahoma in December. It will be well for members of the force to be on the lookout for this pest.

My method for preventing the running of waterproof ink in diluted alcohol is to place the labels in the palm of the hand, drop a few drops of ordinary 95% alcohol upon them and allow this to remain for half a minute or so, when it is safe to place the moist labels directly in 50% alcohol without danger of the ink running. Absolute alcohol recommended by Mr. Urbahns, is not always available, and is not a necessity. C. N. AINSLIE.

Reports of outbreaks of *Toxoptera* in Texas and Oklahoma have on investigation turned out to be due to excessive abundance of *Aphis avenae*, though there are considerable numbers of the former species present. *Aphidius testaceipes* is excessively abundant and with favorable temperature conditions will doubtless hold *Toxoptera* in check. With temperatures unfavorable to the parasite, an outbreak of *Toxoptera* is not improbable.

While making entomological investigations during the last few years in the U. S. Bureau of Entomology, and prior to this, for the State of Illinois, it was found very convenient to have a definite idea as to whom to visit on reaching a new locality.

After considerable investigation and effort, the best party to visit to gather this information proved to be the banker, or, next to him, men in charge of flour mills or elevators. Quite often field men are given the names of parties reporting damage to their crops, and are directed to visit certain localities. On reaching the town, it is learned that the party wanted lives on a rural route or star route, some eight, ten, or perhaps fifteen miles from town. The writer has found that upon calling on the local banker, he could learn just what sort of a farmer he would have to deal with, and very often would find that the party has a rural telephone and communication could be established with him readily.

Bankers often have information of insect ravages from farmer patrons in that same locality, though possibly in a different direction from town, and, quite frequently, before leaving him, he would offer his services in the form of a good horse and buggy or an automobile.

On discussing this matter with Professor Webster, it was learned that in the early days he had used a similar method of getting information, only he went to the family doctors who were always to be found in small towns.

Beyond doubt field men will derive a great deal of help from consulting bankers and will find them a valuable source of information for other reasons than simply what they can gain from them on a single visit. Very often after having visited one of these men, he will keep the matter in mind and if anything shows up in his locality he readily reports it, thus placing us in continuous close touch with the situation. E. O. G. KELLY.



If those of the force will be kind enough to, whenever convenient for them to do so, collect dead stems of outstanding grasses containing hymenopterous larvae and send to Mr. Phillips, U. S. Ent. Lab., Charlottesville, Va., it will be a great help to him in his studies of *Isosoma* and for which he will gladly reciprocate.

Has any one reared hymenopterous parasites from *Sipha* (*Chaitophorus*) *flava*? None of the notes from any of the men of the division who have studied this species contain records of such, and Mr. Thos. R. Jones, Entomologist of the Porto Rico Sugar Experiment Station, states that it is not parasitized there. If any of the force reared parasites please let us have them for determination.

Occasional requests for Bureau publications are received from members of this division, through Congressmen, sent in this manner evidently under the mistaken impression that members of Congress have copies of such for distribution. Such requests are invariably referred to the Bureau, as no Congressman has copies for his own use, and nothing can be obtained in that way that cannot be secured by applying to the office direct.

A rearing cage for Diptera that has proven very useful to us, at the Wellington laboratory, consists of a tin can cigar box with a round hole, one inch in diameter, cut near the top into which a glass vial is inserted. The vial can be made to fit very tight by making a cone of heavy paper, rolling it so as to leave an opening nearly as large as the vial. Fill the can about two-thirds full of loose sandy loam or leaf mold, being very careful to avoid too much moisture as evaporation is very slow. Place Dipterous larvae or pupae or, in fact, any kind of insects that enter the ground for pupation, into the soil within this cage and wait their development. Adults upon issuing will enter the vial from which they can be removed. The cans can be bought from cigar stores at from one-half to one cent each, and a die for cutting the hole in them can be bought at any hardware store. E. O. G. KELLY.

Small quantities of *Lachnosterna* beetles may be shipped through the mails as follows,--Beetles should be saturated with 70% alcohol (never formaldehyde) and if the separate collections are wrapped in cloth packages, as they should be, these should be placed in tin cans with tight fitting lids, such as preserving cans, cans used for syrups, such as "Karo" syrup, or even paraffin coated or other waterproofed jars or bottles which are used for cream, milk, cottage cheese, etc. These are then placed in larger boxes for shipment. No additional alcohol should be added to the moist saturated beetles and the contents of the can should be packed so that undue jarring will not result. The alcohol on the saturated specimens will keep them moist and in good condition for examination for some time. If larger quantities are to be shipped a can, such as a milk can, with a tight fitting lid should be used, the lid being wired on and the can shipped by express. Pinned beetles may be packed and shipped by mail or express according to quantity. J. J. DAVIS.

